

What Is Claimed Is:

1. A cooling circuit for an internal combustion engine (1) having a first external coolant circuit and a second external coolant circuit, the first coolant circuit (7) including a first flow channel (9) and a first return channel (13) and supplying the waste heat from the internal combustion engine (1) to a radiator (11); and the second coolant circuit (21) including a second flow channel (25) and a second return channel (27) and supplying the waste heat from the internal combustion engine (1) to a heat exchanger (23), wherein the first flow channel (9) and the second flow channel (25) are connected to the cylinder head (3) of the internal combustion engine (1); a distributor (39) is provided; the distributor (39) in a first position connects the first return channel (13) and the second return channel (27); and the distributor (39) in a second position connects the second return channel (27) to the first flow channel (9).

2. The cooling circuit as recited in Claim 1, wherein a main coolant pump (19, HWP) is provided in the first coolant circuit (7); and an auxiliary coolant pump (33, ZWP) is provided in the second coolant circuit (21).

3. The cooling circuit as recited in Claim 1 or Claim 2, wherein a bypass line (17) is provided in the first coolant circuit (7) to bypass the radiator (11).

4. The cooling circuit as recited in Claim 3, wherein the bypass line (17) is opened and closed in a temperature-controlled manner.

5. The cooling circuit as recited in one of the preceding claims,

wherein the distributor (39) in the second position connects the second return channel (27) to the first bypass line (17).

6. The cooling circuit as recited in one of the preceding claims,

wherein the auxiliary coolant pump (33, ZWP) is regulated or controlled in a temperature-controlled manner.

7. A method for controlling a cooling circuit as recited in one of the preceding claims, characterized by the following method steps:

- Detection of the temperature (T_{eng}) of the internal combustion engine.
- Deactivation of the main coolant pump (19) and the auxiliary coolant pump (33, ZWP); setting of the distributor (39) to its first position when the temperature (T_{eng}) of the internal combustion engine is less than a first threshold value (T_{s1}).
- Deactivation of the main coolant pump (19, HWP) and activation of the auxiliary coolant pump (33, ZWP); setting of the distributor (39) to its first position when the temperature (T_{eng}) of the internal combustion engine (1) is greater than or equal to the first threshold value (T_{s1}) and less than a second threshold value (T_{s2}).
- Activation of the main coolant pump (19, HWP) and deactivation of the auxiliary coolant pump (33, ZWP); setting of the distributor (39) to its second position when the temperature (T_{eng}) of the internal combustion engine is greater than or equal to the second threshold value (T_{s2}).

8. The method as recited in Claim 7,

wherein the main coolant pump (19, HWP) is activated and the auxiliary coolant pump (33, ZWP) is deactivated and the distributor (39) is set to its second position when the power

(P_{out}) output by the internal combustion engine exceeds a limit value (P_{limit}).

9. The method as recited in Claim 8, wherein the power output by the internal combustion engine is calculated according to the following formula:

$$P_{out} = M_{eng} \times n_{eng}$$

Where:

M_{eng} is the torque output by the internal combustion engine

n_{eng} is the rotational speed of the internal combustion engine

10. The method as recited in Claim 7, wherein the main coolant pump (19, HWP) is activated and the auxiliary coolant pump (33, ZWP) is deactivated and the distributor (39) is set to its second position when the torque (M_{eng}) output by the internal combustion engine or the rotational speed (n_{eng}) of the internal combustion engine exceeds a limit value.

11. The method as recited in one of Claims 7 through 9, wherein the main coolant pump (19, HWP) is activated, at the latest, after a maximum deactivation time ($P_{off, max}$) has been exceeded.

12. The method as recited in Claim 11, wherein the deactivation time ($P_{off, max}$) is dependent on the coolant temperature at the time the engine is started.

13. The method as recited in one of Claims 7 through 12,

wherein the auxiliary coolant pump (33) is also activatable as a function of the temperature in the second flow channel (25).

14. The method as recited in one of Claims 7 through 13, wherein the auxiliary coolant pump (33) is also activatable as a function of a component temperature of the internal combustion engine (1).

15. The method as recited in Claim 14, wherein the component temperature of the internal combustion engine (1) is a temperature inside the cylinder head (3) of the internal combustion engine (1).